BIOHACK NOTES

EXCRETORY PRODUCTS AND THEIR ELIMINATION

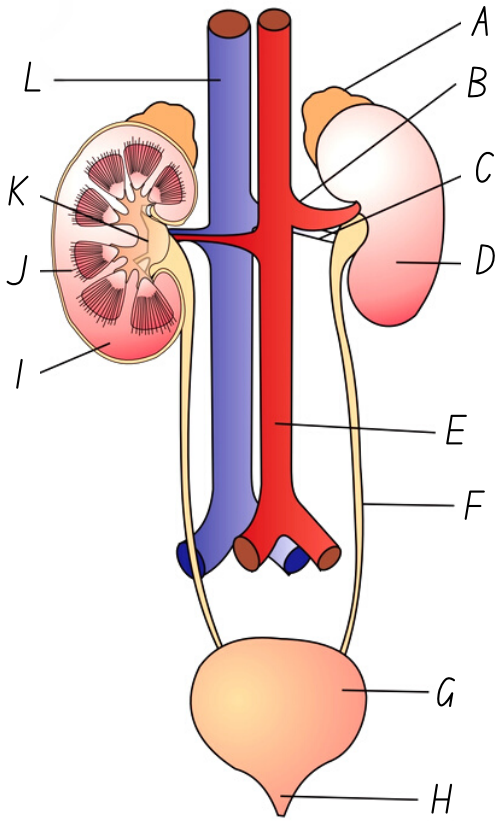
- BASED ON ACTIVE RECALL AND SPACED REPETITION
- TARGET 360/360 IN NEET BIOLOGY & 100/100 IN BOARDS!

PARTH GOYAL

• INTRODUCTION

1. Least toxic nitrogenous waste is _____
2. Ammonotelic ex (3)
3. Ureotelic ex (3)
4. Uricotelic ex (4)
5. Protonephridia also called _____ are excretory structures of (4)
6. Nephridia are found in (1)
7. Antennal glands or _____ are present in _____ like _____

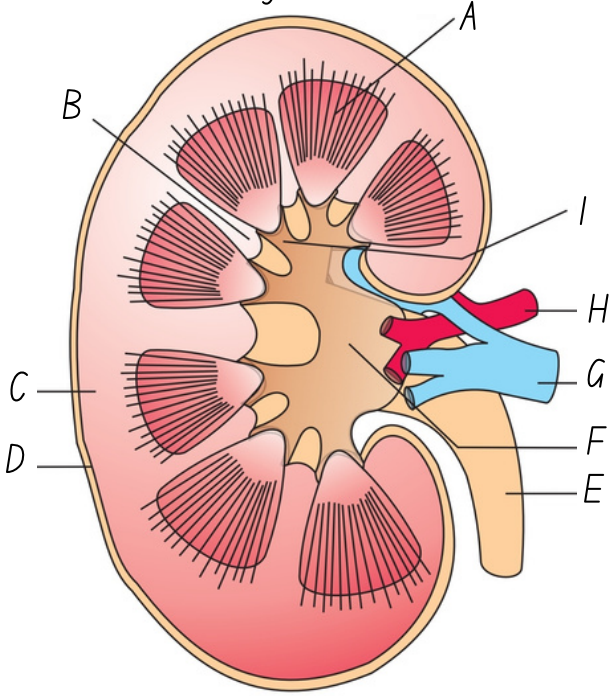
DigaQ. 1



• HUMAN EXCRETORY SYSTEM

8. Kidneys are _____ in color.
9. It is situated between _____ and _____ vertebrae.
10. Kidney is located dorsally/ventrally.
11. Kidney dimensions (length, width and thickness) are -
12. Average weight is -
13. Ureter, blood vessels and nerves enter through _____
14. Funnel shaped space is _____ which project into _____
15. The outer layer of kidney is a tough capsule. T/F
16. Kidney is divided into 2 zones -
17. Cortex between medullary pyramids and renal column extend and called _____
18. Total no of nephrons in human body is _____
19. Nephron 2 parts -
20. Cup like structure is _____
21. Glomerulus + Bowman's Capsule =
22. Only component of nephron which dips into medulla is -
23. Juxtamedullary nephrons are present in more no. than cortical nephrons. T/F
24. Vasa recta is absent or highly reduced in cortical nephrons. T/F

DigaQ. 2



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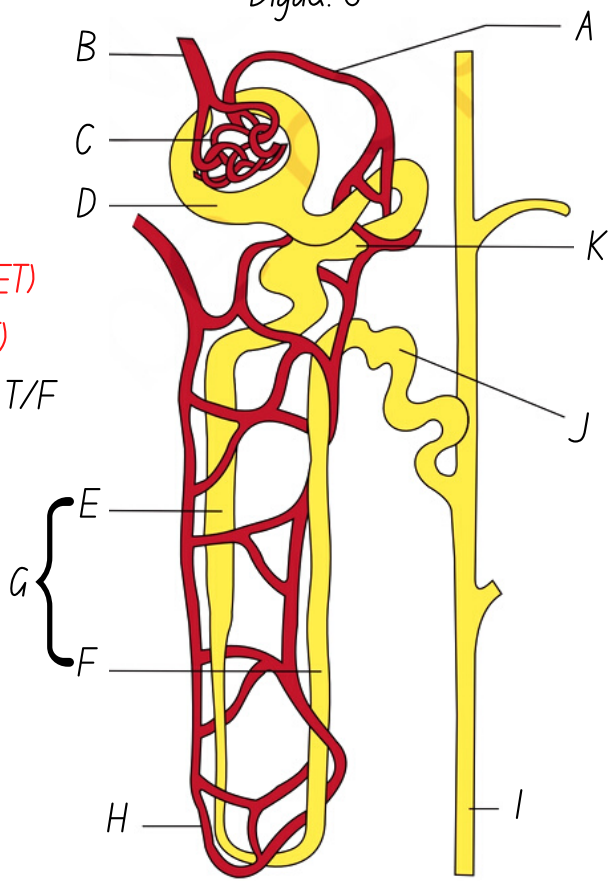
• URINE FORMATION

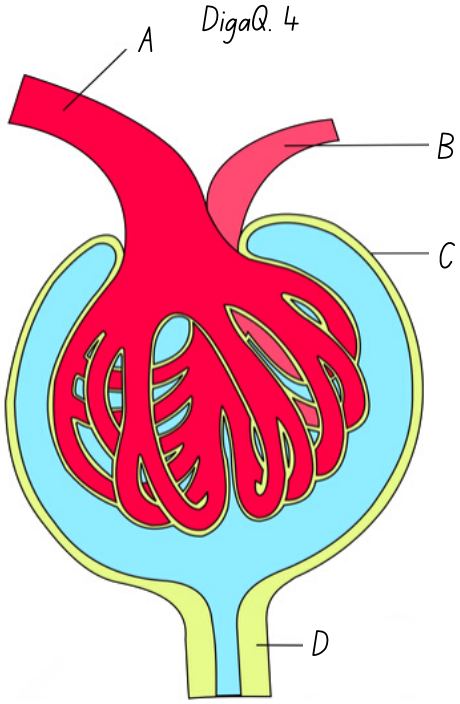
DigaQ. 3



25. The 3 process for urine formation are -
26. On average, _____-_____ ml of blood is filtered by the kidneys per min.
27. The filtration occurs through 3 layers. Name them.
28. The epithelial cells of Bowman's capsule is called _____ (NEET)
29. Minute spaces between them is called ____ or ____ (NEET)
30. Protein also passes onto the lumen of the bowman's capsule. T/F
31. Glomerular filtration is called ultrafiltration because -
32. GFR normal values are - _____ ml/min i.e. _____ lit/day.
33. JGA is formed by the cellular modification of _____ and _____
34. A fall in GFR activate the JG cells to release _____
35. Nearly ____ % of filtrate has to be reabsorbed by renal tubules. (NEET)
36. Substances reabsorbed actively are (3) - (NEET)
37. Substances reabsorbed passively are - (NEET)
38. Tubular cells secrete which 3 things into the filtrate ?

• FUNCTION OF TUBULES

DigaQ. 4



39. PCT is lined by _____ epithelium.
40. 70-80% of _____ and _____ are reabsorbed in PCT. (NEET)
41. PCT helps to maintain _____ and _____ of the body fluids. (NEET)
42. PCT secrete ____, _____, _____ into the filtrate.
43. Reabsorption is minimum in ascending/descending limb. (NEET)
44. What plays a significant role in maintenance of high osmolarity of medullary interstitium ?
45. Descending limb is permeable to _____ and impermeable to _____ (NEET)
46. Ascending limb is impermeable to _____ but permeable to _____ (NEET)
47. Ions are only transported passively in ascending limb. T/F (NEET)
48. Conditional reabsorption of _____ and _____ take place in DCT.
49. DCT also reabsorbs _____ and selective secretion of ____, ____, ____ also occur. (NEET)
50. Large amount of water can be reabsorbed from _____

• MECHANISM OF CONCENTRATION & REGULATION

51. The countercurrent mechanism operate between vasa recta and henle's loop. T/F
52. The countercurrent is formed between the two limbs of Henle's loop. T/F
53. The countercurrent is formed between the two limbs of vasa recta. T/F
54. Osmolarity gradient in the inner medullary interstitium is from _____ mOsmolL-1.
55. This gradient is mainly cause by -
56. Kidney function is regulated by (3) -
57. ADH prevent _____
58. ADH also have constrictory effect on blood vessel. T/F
59. JG cells are activated by _____ and release _____ (NEET)
60. Renin convert _____ to _____
61. Angiotensin I is converted to angiotensin II by _____ enzyme found in _____
62. Angiotensin II is a powerful _____
63. Angiotensin activate adrenal cortex to release _____
64. Aldosterone causes reabsorption of ____ and _____ from distal parts of tubule.
65. ANF decrease blood pressure by causing diuresis. T/F
66. ANF cause - (NEET)
67. _____ mechanism check RAAS mechanism.

• MICTURITION, ROLE OF OTHER ORGANS & DISORDERS

68. An adult human excrete _____ liters of urine per day.
69. The urine pH is ___ (NEET)
70. _____ gm of urea is excreted out per day. (NEET)
71. Presence of glucose in urine means _____ and ketone means _____ are indicative of _____ (NEET)
72. Other than kidneys, _____, _____ and _____ help in elimination of excretory waste.
73. Sweat glands eliminate (3) -
74. Sebaceous glands eliminate substances like _____, _____ and _____ through _____
75. Accumulation of urea is called _____
76. Anticoagulant _____ is used when the blood is pumped into a dialysing unit.
77. The unit contains a coiled tube made of _____ surrounded by a dialysing fluid.
78. Anti-heparin is also used in haemodialysis. T/F
79. Renal canaliculi is because of - (NEET)
80. Inflammation of glomeruli of kidney is called - (NEET)

PARTH GOYAL

EXCRETORY PRODUCTS AND THEIR ELIMINATION

PARTH GOYAL

ANSWERS

• INTRODUCTION

1. Uric acid
2. Bony fishes, aquatic amphibians and aquatic insects
3. Amphibians, marine fishes, mammals
4. Reptiles, birds , land snails and insects
5. Flame cells, ex - Platyhelminthes, rotifers, some annelids and cephalochordata
6. Annelids
7. Green glands, crustaceans like prawns

• HUMAN EXCRETORY SYSTEM

8. Reddish brown
9. Last thoracic and 3rd lumbar
10. Dorsally
11. 10-12 cm length, 5-7 cm width, 2-3 cm thickness
12. 120-170 g
13. Hilum
14. Renal pelvis, calyces
15. T
16. Outer cortex and inner medulla
17. Renal columns of bertini
18. 2 million
19. Glomerulus and renal tubule
20. Bowman's capsule
21. Malphigian body/Renal corpuscle
22. Loop of henle
23. F, vice versa is true
24. T

• URINE FORMATION

25. Glomerular filtration, reabsorption and secretion
26. 1100-1200 ml
27. Endothelium of glomerular blood vessel, epithelium of bowman's capsule and basement membrane
28. Podocytes
29. Filtration slits or slit pores
30. F
31. All constituent except protein paas to lumen
32. 125 ml/min or 180 lit/day
33. DCT and afferent arteriole
34. Renin
35. 99
36. Glucose, amino acid and Na^+
37. Nitrogenous waste
38. H^+, K^+ and ammonia

• FUNCTION OF TUBULES

39. Simple cuboidal
40. Electrolyte and water
41. pH and ionic balance
42. H^+, K^+ and ammonia
43. Ascending limb
44. Loop of henle
45. Water, electrolytes
46. Electrolytes, water
47. F, actively too
48. Water and Na^+
49. HCO_3^-, selective secretion of Hydrogen, potassium and NH3
50. Collecting duct

• MECHANISM OF CONCENTRATION

51. F
52. T
53. T
54. 300-1200
55. NaCl and urea
56. Hypothalamus, JGA and heart
57. Diuresis
58. T
59. Fall in GFR, renin
60. Angiotensinogen to angiotensin

61. ACE (Angiotensin convertase enzyme), lungs
62. Vasoconstrictor
63. Aldosterone
64. Water and Na^+
65. F
66. Vasodilation
67. ANF

• MICTURITION • ROLE OF OTHER ORGANS • DISORDERS

68. 1-1.5
69. 6
70. 25-30 gm
71. Glycosuria, ketonuria, diabetes mellitus
72. Lungs, liver and skin
73. NaCl, urea and lactic acid
74. Sterols, hydrocarbons and waxes through sebum
75. Uremia
76. Heparin
77. Cellophane
78. T
79. Stone or insoluble mass of crystallised salts (oxalates, etc.) formed within the kidney
80. Glomerulonephritis

• DigaQs

DigaQ. 1 - Human Urinary system

A – Adrenal gland
B – Renal artery
C – Renal vein
D – Kidney
E – Dorsal aorta
F – Ureter
G – Urinary bladder
H – Urethra
I – Cortex
J – Medulla
K – Pelvis
L – Inferior vena cava

DigaQ. 2 - Longitudinal section of Kidney

A – Medullary pyramid
B – Renal column
C – Cortex
D – Renal capsule
E – Ureter
F – Renal pelvis
G – Renal vein
H – Renal artery
I – Calyx

DigaQ. 3 - Nephron

A – Efferent arteriole
B – Afferent arteriole
C – Glomerulus
D – Bowman's capsule
E – Descending limb of loop of Henle
F – Ascending limb of loop of Henle
G – Henle's loop
H – Vasa recta
I – Collecting duct
J – Distal convoluted tubule
K – Proximal convoluted tubule

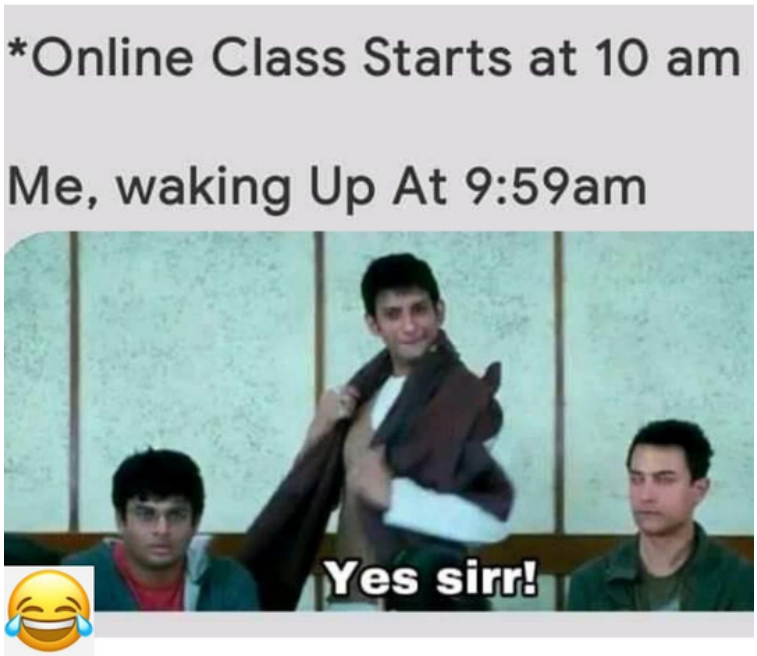
DigaQ. 4 - Malpighian body

A – Afferent arteriole
B – Efferent arteriole
C – Bowman's capsule
D – Proximal convoluted tubule

PARTH GOYAL

SCAN AND DONATE US SO THAT WE CAN CREATE MORE SUCH QUALITY CONTENT FOR YOU!

JUST ₹10-20 WILL BE APPRECIABLE! :)



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